

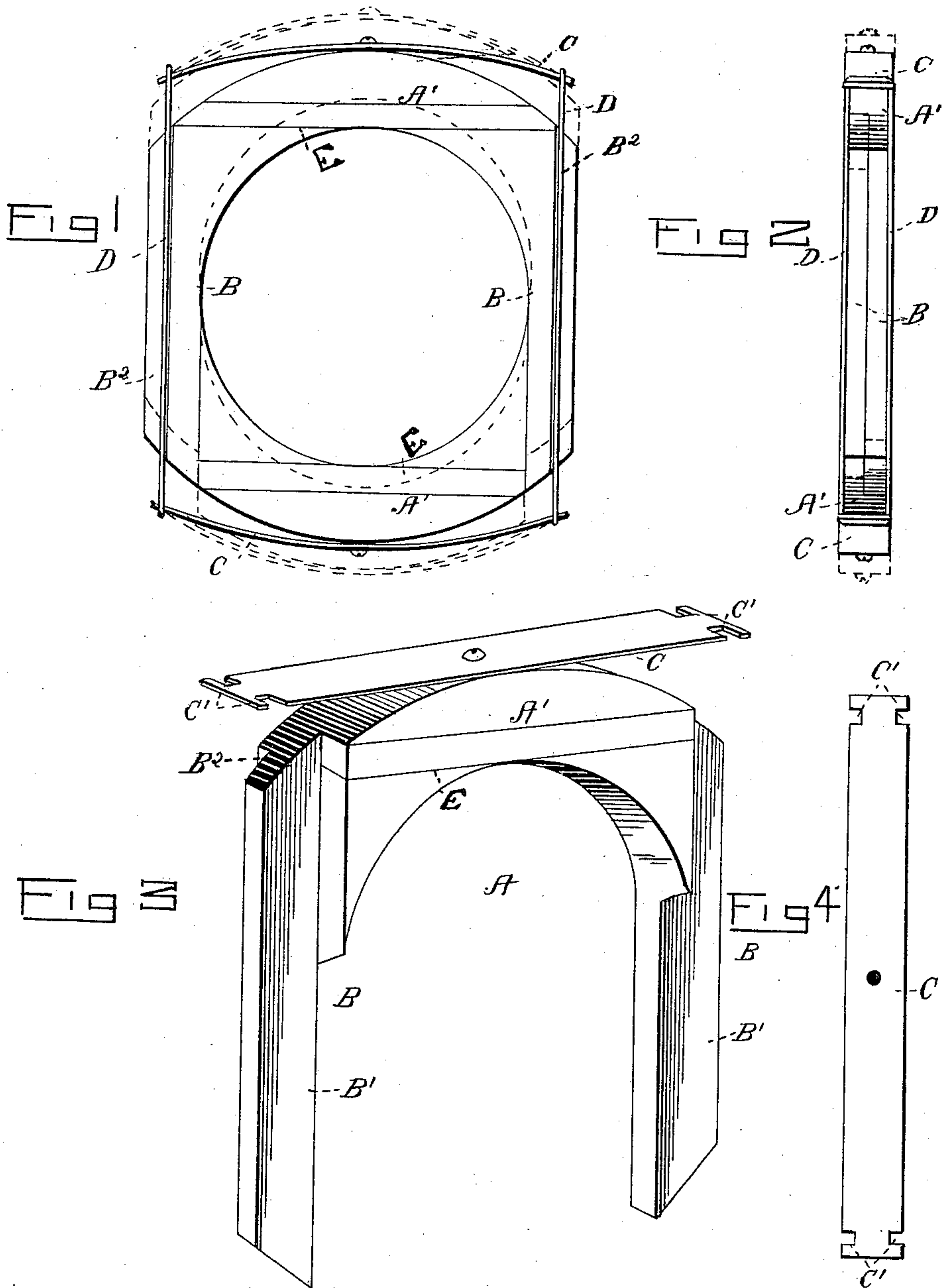
(No Model.)

S. R. HUGHES.

CAR AXLE BOX.

No. 326,219.

Patented Sept. 15, 1885.



WITNESSES:  
Morris A. Clark.  
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# UNITED STATES PATENT OFFICE

SAMUEL R. HUGHES, OF BENTON HARBOR, MICHIGAN.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 326,219, dated September 15, 1885.

Application filed February 7, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL R. HUGHES, a citizen of the United States, residing at Benton Harbor, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to washers or guards intended for use in connection with the boxes of car-axles. It pertains to that class of such devices illustrated in the Patent No. 153,377, granted to me June 23, 1874, and has for its object to so connect the washer-sections that they will automatically and closely take up the wear on the axle and on themselves in order to preserve a snug tight fit at all times.

The invention consists in the construction and combination of parts, hereinafter described, and particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side view of my improved washer or guard. Fig. 2 is an edge view thereof. Fig. 3 is a perspective view of one of the sections; and Fig. 4 is a detail view of the springs.

The manner of supporting my guard or washer will be fully understood from my former patent, heretofore referred to. It suffices to say that the washer is placed on the axle and serves to prevent the entrance of dust and grit to the box and the exit of oil therefrom.

The washer is composed of sections A A, which are constructed alike, and the description of one will serve for both,

I make each section of what, for convenience of reference, I term the "body" A' and the "arms" B. The body A' is cut out in semi-circular form to fit one side of the axle. The arms B are formed on one side, with a longitudinal rabbet, B', and in their other or outer side with grooves B<sup>2</sup>. Bar-springs C are secured midway their ends to the outer sides of the washer-sections, and have their extremities carried to the outer edges of the sections. The latter, being curved on their outer sides, afford sufficient play for the said springs in the operation of the device. The springs are notched at C' near their outer ends to permit

the convenient attachment of the links D, which are made in the form of loops or bails and have their arms rested in the grooves B<sup>2</sup>. Thus the arms of the bail-link keep the arms of the two sections in proper contact, as shown in Figs. 1 and 2, and the grooves B<sup>2</sup> serve to receive the said link-arms, so they will not project beyond the planes of the opposite faces of the washer or guard.

By the notches C' and the form of bail D the latter may be conveniently removed for the purpose of substituting another or shorter one should occasion require.

In operation, it will be seen, the springs give the sections a tension toward each other, so that they will fit closely on the axle and prevent the passage of dust into or oil out of the box, and will also take up all wear, so as to preserve such close fit until the sections have been entirely worn away.

It may be stated that in practice I prefer to make the sections A of hard wood, with the grain running with the line of the tension, so that the surface presented to wear will be the ends of the fiber or grain of the wood. This because of the greater durability thereby secured.

In the use or practice of my invention the washer section may break or split, to provide against which I cut a horizontal furrow or groove, E, across the upper and lower part of washer-section of suitable depth and thickness. In this furrow or groove I insert, by any suitable means, a strip running cross the grain in the washer-section. It is manifest that the same thing may be accomplished by running a wire through it and bending and clinching it on each edge, or by other suitable means.

Having thus described my invention, what I claim is—

1. A washer for surrounding a car-axle, consisting of two sections, each of which is provided with a body portion, A', and legs or side extensions, B', the parts B' of the two sections overlapping and lying upon each other when in use, and the springs C and connections D, substantially as set forth.

2. The combination of the sections A A, having the body portions A' A', and the legs



or side extensions, B' B', the latter parts overlapping each other when in use, flat springs C, secured to the body portions A' and provided with notches in their ends, and the side  
5 connections, D, each of which is placed over one end of each spring, as shown, and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL R. HUGHES.

Witnesses:

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JAMES S. GOODRIDGE.